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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/537,897

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Ana Isabel Sanz Molinero

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EXAMINER

BAUM, STUART F

ART UNIT

PAPER NUMBER

1638

MAIL DATE

DELIVERY MODE

10/06/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/537,897	Applicant(s) SANZ MOLINERO, ANA ISABEL	
	Examiner STUART F. BAUM	Art Unit 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2009 and 24 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 10, 12-17, 19-23, 29, 44-47, 49-51 and 53-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 10, 12-17, 19-23, 29, 44-47, 49-51 and 53-56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>7/17/2009, 7/24/2009</u> . | 6) <input checked="" type="checkbox"/> Other: <u>sequence search results</u> . |

DETAILED ACTION

1. The amendments filed 7/17/2009 and 7/24/2009 have been entered.

RCE Acknowledgment

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/17/2009 has been entered.

3. Claims 1-4, 10, 12-17, 19-23, 29, 44-47, 49-51 and 53-56 are pending.

Claims 5-9, 11, 18, 24-28, 30-43, 48 and 52 have been canceled.

4. Claims 1-4, 10, 12-17, 19-23, 29, 44-47, 49-51 and 53-56 including SEQ ID NO:1, 2, 5, 51, 7, 8 and 9 are examined in the present office action.

Specification/ IDS

5. The lined through items listed on form 1449 have not been considered as they were not provided by the Applicant. As stated in the MPEP § 1.98 (a) Any information disclosure statement filed under § 1.97 shall include: (1) A list of all patents, publications, applications, or other information submitted for consideration by the Office; (2) A legible copy of:

- (i) Each U.S. patent application publication and U.S. and foreign patent;
- (ii) Each publication or that portion which caused it to be listed;

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Claim Objection

6. Claims 4, 10, 12-17 and 19-23, line 1, are objected to for reciting “A method” instead of --The method--.

Claims 53-56 are objected to for being drawn to non-elected sequences. Correction is requested.

Claim 56, line 1, is objected to for reciting “The of” instead of --The method of--.

Claims 15 and 16, line 2, are objected to for reciting "of the" twice.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-4, 10, 12-17, 19-23, 29, 44-45, 47 and 49-51 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is indefinite for reciting “as represented by”. The Merriam Webster Online Dictionary defines “represent” to mean: to serve as a specimen, example or instance of, (Merriam Webster Online Dictionary. 2005, www.m-w.com/home.html; a copy of the definition is enclosed). Therefore, the recitation "as represented by" is indefinite because Applicants have not set forth the meets and bounds of "represent". Applicants have not disclosed the amino acids that are required for each motif (i) through (iv) that are encompassed by the recitation “as represented by”. All subsequent recitations of “as represented by” are also rejected.

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Amending the claims to replace “as represented by” with --comprising-- will obviate the rejection.

New Matter

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 1-4, 10, 12-17, 19-23, 29, 44-45, 47 and 49-51 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims have been amended to recite “as represented by”. Applicants fail to point to support for the phrase in the instant specification. Upon a cursory search of the specification, support could not be found. Applicants are required to point to support for “as represented by” or to amend the claims to delete the NEW MATTER.

Written Description

9. Claims 1-4, 10, 12-17, 19-23, 29, 44-45, 47 and 49-51 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to

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reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims are drawn to methods comprising increasing the expression of a sequence encoding a 2xC2H2 zinc finger protein, said 2xC2H2 zinc finger protein comprising motifs (i) - (iv): wherein (i) is represented by SEQ ID NO:5 or 51, motif (ii) is represented by SEQ ID NO:7, motif (iii) is represented by SEQ ID NO:8 and motif (iv) is represented by SEQ ID NO:9, or wherein said 2xC2H2 protein is encoded by a nucleic acid capable of completely hybridizing with SEQ ID NO:1.

Because of the indefiniteness of “represented by” as discussed above, the Office interprets this phrase to mean any amino acid sequence.

Applicants disclose SEQ ID NO’s:1, 2, 5, 51, 7, 8, and 9.

The Applicant does not identify essential amino acids of any of the amino acid motifs of SEQ ID NO:5, 51, 7, 8 and 9 nor does Applicant describe any polynucleotide sequences that hybridizes to SEQ ID NO:1 under any conditions that encodes a protein with the same activity as the protein encoded by SEQ ID NO:1.

The Federal Circuit has recently clarified the application of the written description requirement to inventions in the field of biotechnology. See University of California v. Eli Lilly and Co., 119 F.3d 1559, 1568, 43 USPQ2d 1398, 1406 (Fed. Cir. 1997). In summary, the court stated that a written description of an invention requires a precise definition, one that defines the structural features of the chemical genus that distinguishes it from other chemical structures. A definition by function does not suffice to define the genus because it is only an indication of what the gene does, rather than what it is. The court goes on to say, “A description of a genus of

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cDNAs may be achieved by means of a recitation of a representative number of cDNAs, defined by nucleotide sequence, falling within the scope of the genus or of a recitation of structural features common to members of the genus, which features constitute a substantial portion of the genus.” See *University of California v. Eli Lilly and Co.*, 119 F.3d 1559; 43 USPQ2d 1398, 1406 (Fed. Cir. 1997).

Applicants fail to describe the sequence of amino acids that are encompassed by the term “represented by” for each motif (i)-(iv) as discussed above, that are part of a 2xC2H2 polypeptide that when over-expressed in a plant results in increased plant yield, increased leaf surface, prolonged vegetative growth or increased yield. Applicants also fail to describe a representative number of polynucleotide sequences that hybridize under any condition to SEQ ID NO:1 and encode a 2xC2H2 protein that when over-expressed produces the desired result. Applicants only disclose SEQ ID NO’s:5, 7-9 and SEQ ID NO:1 encoding SEQ ID NO:2. Furthermore, Applicants fail to describe structural features common to members of the claimed genus of polynucleotides. Hence, Applicants fail to meet either prong of the two-prong test set forth by *Eli Lilly*. Furthermore, given the lack of description of the necessary elements essential for the claimed genus of motifs, it remains unclear what features identify each motif. Since the genus of each motif and the genus of polynucleotides that hybridize under any condition to SEQ ID NO:1 that encodes a dicotyledonous plant 2xC2H2 zinc finger protein operable in applicant’s invention has not been described by specific structural features, the specification fails to provide an adequate written description to support the breadth of the claims.

Scope of Enablement

10. Claims 1-4, 10, 12-17, 19-23, 29, 44-47, 49-51 and 53-56 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method for increasing plant yield, method for increasing leaf surface area, method for prolonging vegetative growth phase and method for the production of a transgenic plant having increased yield comprising transforming a plant with a construct comprising a constitutive promoter operably linked to SEQ ID NO:1 encoding SEQ ID NO:2, does not reasonably provide enablement for said methods comprising *increasing expression* in a plant of a nucleic acid sequence encoding a 2xC2H2 zinc finger protein comprising motifs (i)-(iv), as recited in claim 1, or wherein said sequence is SEQ ID NO:1 or encodes SEQ ID NO:2, or wherein said increasing expression is effected by recombinant means, or wherein increasing expression is effected by introducing into the plant a nucleic acid capable of increasing expression of a gene encoding said 2xC2H2 zinc finger, or wherein the method comprises introducing into a plant or plant cell a nucleic acid sequence encoding any 2xC2H2 protein that comprises motifs (i)-(iv), or wherein the protein is encoded by a sequence that hybridizes to SEQ ID NO:1 under any conditions. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

The claimed invention is not supported by an enabling disclosure taking into account the *Wands* factors. *In re Wands*, 858/F.2d 731, 8 USPQ2d 1400 (Fed. Cir. 1988). *In re Wands* lists a number of factors for determining whether or not undue experimentation would be required by one skilled in the art to make and/or use the invention. These factors are: the quantity of experimentation necessary, the amount of direction or guidance presented, the presence or

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absence of working examples of the invention, the nature of the invention, the state of the prior art, the relative skill of those in the art, the predictability or unpredictability of the art, and the breadth of the claim.

The claims are drawn to a method for increasing plant yield, method for increasing leaf surface area, method for prolonging vegetative growth phase and method for the production of a transgenic plant having increased yield comprising increasing expression in a plant of a nucleic acid sequence encoding a 2xC2H2 zinc finger protein comprising motifs represented by motifs (i)-(iv), as recited in claim 1, or wherein the zinc finger protein comprises SEQ ID NO:2, or wherein said increasing expression is effected by recombinant means, or wherein increasing expression is effected by introducing into the plant a nucleic acid capable of increasing expression of a gene encoding said 2xC2H2 zinc finger, or wherein the method comprises introducing into a plant or plant cell a nucleic acid sequence encoding any 2xC2H2 protein that comprises motifs (i)-(iv), or wherein the protein is encoded by a sequence that hybridizes to SEQ ID NO:1 under any conditions.

Applicants state “A gene encoding an STZ protein was amplified by PCR from *Arabidopsis thaliana* seedling cDNA library” (page 35, lines 32-33), but Applicants do not disclose the primers or reaction conditions used to isolate said nucleic acid. Applicants disclose said nucleic acid was operably linked to the rice GOS2 constitutive promoter and transformed into rice (page 36, lines 14-23). Applicants disclose the resultant T1 or T2 generations containing at least one copy of the nucleic acid exhibited increased biomass (page 38, line 19), increased above ground area of the plant (page 38, line 22), more filled seeds (page 40, lines 5-7), increased seed weight (page 40, lines 20-22), increased number of seeds per plant (page 42,

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lines 14-end of the page), increased root growth (page 44, lines 1-19) and increased leaf width (page 44, lines 21-34).

The Office contends Applicants are not enabled, in part, for "increasing expression in a plant ...". The recitation reads on any method that directly or indirectly increases expression of the desired nucleic acid sequence. For example, this recitation reads on the use of enhancers to increase expression, the use of chemical agents to increase expression, the use of abiotic conditions to increase expression, modifying the expression of a gene that does not directly interact with said nucleic acid, but which indirectly increases expression of said nucleic acid sequence; all of which are not taught in Applicant's specification or the state-of-the-art. For example, Applicants disclose that expression may be effected by chemical means, but no chemical examples are given (page 3 of specification, bottom paragraph). Therefore, given the lack of disclosure, undue trial and error experimentation would be required by one of skill in the art to practice the broadly claimed invention.

Applicant's claims are broadly drawn to any 2xC₂H₂ protein having motifs (i)-(iv), wherein motifs (i)-(iv) are SEQ ID NO:5, 7, 8 and 9, respectively. The Office contends Applicant has not adequately disclosed in the specification and recited in the claims all of the amino acids that are conserved and required for a protein with the correct activity to be operable in Applicant's invention. In short, Applicant's claims are drawn to a genus of proteins that would produce unpredictable results when used in Applicant's invention. The state-of-the-art teaches not all 2xC₂H₂ type of zinc finger proteins have the same function in plants. Takatsuji et al (1994, The Plant Cell (6):947-958) teach the EPF1 zinc finger protein has two canonical C₂H₂ zinc finger motifs that is expressed specifically in petals and interacts with the promoter

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region of the 5-enolpyruvylshikimate-3-phosphate synthase gene in petunia (page 947, right column and abstract) (See sequence search result of SEQ ID NO:2 in which the four domains are highlighted by a line over the domain). Ciftci-Yilmaz et al (2008, Cell. Mol. Life Sci. (65):1150-1160) teach the subclass of zinc finger proteins that has two C2H2 zinc finger contains 18 members, of which Applicant's SEQ ID NO:2 is a member (Zat10 is identical to Applicant's SEQ ID NO:2) and comprise SEQ ID NO:5 (a QALGGH domain) and an EAR domain (SEQ ID NO:7) and a B-box (nuclear localization sequence) and are repressors that are involved in plant defense and stress response (page 1154). The Office contends Applicant and the prior art are silent as to which 2xC2H2 protein comprising the four motifs will give the expected result.

In addition, Applicant has not disclosed how one makes or isolates any of the sequences that are encompassed by Applicant's broad claims. Applicant has not taught which regions of the respective polynucleotides can be used to amplify any of said polynucleotides or which regions can be used as a probe to isolate any of said polynucleotide sequences. The instant specification fails to provide guidance for which amino acids, other than those encompassed in SEQ ID NO:5, 7, 8 and 9, of the protein encoded by SEQ ID NO:1 can be altered, the type of alteration, and which amino acids must not be changed, to maintain activity of the encoded protein. The specification also fails to provide guidance for which amino acids can be deleted and which regions of the protein can tolerate insertions and still produce a functional protein.

The Office contends Applicant has not disclosed all the essential amino acids of the encoded 2xC2H2 protein. This is evidenced by an alignment between SEQ ID NO:2 and 27 of the instant application. Comparing the two sequences reveals conserved amino acids other than those in the claimed motifs. Therefore, the claimed encoded 2xC2H2 protein comprising motifs

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(i)-(iv) lacks essential amino acids required by the protein to be active. (see attached protein alignment in Applicant's remarks filed 5/22/2009).

The state-of-the-art teaches specific amino acids within the zinc finger are responsible for specific DNA binding. Takatsuji (1996, Biochemical and Biophysical Research Communication 224:219-223) teach that a single amino acid in the second zinc finger is responsible for the difference in target sequence binding. Therefore, the Office contends that Applicant has not disclosed all the essential amino acids that are required for the proper activity of the claimed polypeptide.

Applicants claims are drawn to nucleic acid sequences that hybridize to SEQ ID NO:1 under any conditions, but the state-of-the-art teaches isolating DNA fragments using even stringent hybridization conditions, does not always select for DNA fragments whose contiguous nucleotide sequence is the same or nearly the same as the probe. Fourgoux-Nicol et al (1999, Plant Molecular Biology 40 :857-872) teach the isolation of a 674bp fragment using a 497bp probe incorporating stringent hybridization conditions comprising three consecutive 30 minute rinses in 2X, 1X and 0.1X SSC with 0.1% SDS at 65⁰C (page 859, left column, 2nd paragraph). Fourgoux-Nicol et al also teach that the probe and isolated DNA fragment exhibited a number of sequence differences comprising a 99bp insertion and a single nucleotide gap, while the DNA fragment contained 2 single nucleotide gaps and together the fragments contained 27 nucleotide mismatches. Taking into account the insertions, gaps and mismatches, the longest stretch of contiguous nucleotides to which the probe could hybridize consisted of 93bp of DNA (page 862, Figure 2).

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In the absence of guidance, undue trial and error experimentation would be required for one of ordinary skill in the art to screen through the multitude of non-exemplified sequences, either by using non-disclosed fragments of SEQ ID NO:1 as probes or by designing primers to undisclosed regions of SEQ ID NO:2 and isolating or amplifying fragments, subcloning the fragments, producing expression vectors and transforming plants therewith, in order to identify those, if any, that when over-expressed produce a plant exhibiting increased yield, increased leaf surface area and increased vegetative state, when compared to a non-transformed plant.

Therefore, given the breadth of the claims; the lack of guidance and examples; the unpredictability in the art; and the state-of-the-art as discussed above, undue experimentation would be required to practice the claimed invention, and therefore the invention is not enabled.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1-4, 10, 12-17, 19-23, 29, 44-47, 49, 51 and 53-56 are rejected under 35

U.S.C. 102(b) as being anticipated by Gasser et al (1999, U.S. Patent 5,859,337).

The claims are drawn to a method for increasing plant yield, method for increasing leaf surface area, method for prolonging vegetative growth phase and method for the production of a transgenic plant having increased yield comprising increasing expression in a plant of a nucleic acid sequence encoding a 2xC2H2 zinc finger protein comprising motifs represented by motifs (i)-(iv) as recited in claim 1, or wherein said increasing expression is effected by recombinant means, or wherein said 2xC2H2 protein is from a dicot or monocot plant, or wherein increasing expression is effected by introducing into the plant a nucleic acid capable of increasing

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expression of a gene encoding said 2xC2H2 zinc finger, or wherein said nucleic acid is an allelic variant, alternative splice variant or part of a chromosome, or wherein expression of said nucleic acid is driven by a tissue preferred promoter, constitutive promoter, or seed promoter or wherein the method comprises introducing into a plant or plant cell a nucleic acid sequence encoding any 2xC2H2 protein that comprises motifs (i)-(iv), or wherein said protein has the amino acid sequence of SEQ ID NO:2 or is encoded by SEQ ID NO:1.

Gasser et al disclose a method for improving the tolerance of a plant grown in an environment with salt comprising transforming a plant with a construct comprising a nucleic acid molecule isolated from Arabidopsis, of SEQ ID NO:1 encoding the protein of SEQ ID NO:2, wherein the nucleic acid molecule is operably linked to a promoter (column 2, lines 10-24 and column 5, lines 8-11). The Office contends the nucleic acid molecule of Gasser et al of SEQ ID NO:1 exhibits 100% identity with Applicant's SEQ ID NO:1 and SEQ ID NO:1 from Gasser et al encodes a protein exhibiting 100% identity with Applicant's SEQ ID NO:2 (see attached sequence search results). Gasser et al disclose constitutive and tissue preferred promoters as well as promoters that express preferentially in seeds (column 8, lines 8-37). Gasser et al disclose the plant may be any number of plants, i.e., monocot or dicot, and presents a list of plants (column 5, lines 8-20).

The Office contends transforming a plant with said construct increases expression of said protein and it would be inherent that a plant that is more tolerant to an environment with salt would have increased yield, increased leaf surface area and prolonged vegetative growth as compared to a plant that is less tolerant to salt. One of skill in the art would measure salt

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tolerance by an increase in yield, biomass, leaf area and/or prolonged vegetative growth, and as such, Gasser et al anticipates the claimed invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1-4, 10, 12-17, 19-23, 29, 44-47, 49-51 and 53-56 are rejected under 35 U.S.C.

103(a) as being unpatentable over Gasser et al (1999, U.S. Patent 5,859,337).

The claims are drawn to a method for increasing plant yield, method for increasing leaf surface area, method for prolonging vegetative growth phase and method for the production of a transgenic plant having increased yield comprising increasing expression in a plant of a nucleic acid sequence encoding a 2xC2H2 zinc finger protein comprising motifs represented by motifs (i)-(iv) as recited in claim 1, or wherein said increasing expression is effected by recombinant means, or wherein said 2xC2H2 protein is from a dicot or monocot plant, or wherein increasing expression is effected by introducing into the plant a nucleic acid capable of increasing expression of a gene encoding said 2xC2H2 zinc finger, or wherein said nucleic acid is an allelic variant, alternative splice variant or part of a chromosome, or wherein expression of said nucleic acid is driven by a tissue preferred promoter, constitutive promoter, or wherein the constitutive promoter is a GOS2 promoter, or seed promoter or wherein the method comprises introducing into a plant or plant cell a nucleic acid sequence encoding any 2xC2H2 protein that comprises

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motifs (i)-(iv), or wherein said protein has the amino acid sequence of SEQ ID NO:2 or is encoded by SEQ ID NO:1.

Gasser et al disclose a method for improving the tolerance of a plant grown in an environment with salt comprising transforming a plant with a construct comprising a nucleic acid molecule isolated from Arabidopsis, of SEQ ID NO:1 encoding the protein of SEQ ID NO:2, wherein the nucleic acid molecule is operably linked to a promoter (column 2, lines 10-24 and column 5, lines 8-11). The Office contends the nucleic acid molecule of Gasser et al of SEQ ID NO:1 exhibits 100% identity with Applicant's SEQ ID NO:1 and SEQ ID NO:1 from Gasser et al encodes a protein exhibiting 100% identity with Applicant's SEQ ID NO:2 (see attached sequence search results). Gasser et al disclose constitutive and tissue preferred promoters as well as promoters that express preferentially in seeds (column 8, lines 8-37). Gasser et al disclose the plant may be any number of plants, i.e., monocot or dicot, and presents a list of plants (column 5, lines 8-20).

The Office contends transforming a plant with said construct increases expression of said protein and it would be inherent that a plant that is more tolerant to an environment with salt would have increased yield, increased leaf surface area and prolonged vegetative growth as compared to a plant that is less tolerant to salt. One of skill in the art would measure salt tolerance by an increase in yield, biomass, leaf area and/or prolonged vegetative growth, and as such, Gasser et al anticipates the claimed invention.

Gasser et al do not teach a GOS2 promoter.

Given the recognition of those of ordinary skill in the art the value of using a constitutive promoter for expressing genes of interest in a plant as taught by Gasser et al, one of ordinary

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skill in the art would be motivated to use other constitutive promoters from other plants as taught by Gasser et al (see column 8, lines 8-18).

Thus the claimed invention would have been *prima facie* obvious as a whole to one of ordinary skill in the art at the time it was made, especially in the absence of evidence to the contrary.

13. No claims are allowed.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stuart F. Baum whose telephone number is 571-272-0792. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached at 571-272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1600.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Stuart F. Baum/
Stuart F. Baum Ph.D.
Primary Examiner
Art Unit 1638
September 29, 2009